

Appl. No. 10/643,816

Amdt. Dated Nov. 21, 2005

Reply to Office action dated Aug. 22, 2005

Claim Objections

I. CLAIM OBJECTIONS

The Examiner has objected to Claims 12, 20, 21, 24 and 26 because of various informalities.

II. CLAIM REJECTION UNDER 35 USC §102(e)

The Examiner has rejected Claims 1 and 2 under 35 USC §102(e) as being anticipated by Chen, et al.

III. CLAIM REJECTION UNDER 35 USC §103(a)

The Examiner has rejected Claims 3 to 5 and 14 under 35 USC §103(a) as being unpatentable over Chen et al in view of what was well known in the art. The Examiner has rejected Claims 6 and 8 under 35 USC §103(a) as being unpatentable over Chen et al in view of what was well known in the art, and further in view of Kitazawa et al. The Examiner has rejected Claims 9 to 13 under 35 USC §103(a) as being unpatentable over Chen et al in view of what was well known in the art and Kitazawa et al as applied to Claim 8, and further in view of Sinnarajah, et al. The Examiner has rejected Claims 15 under 35 USC §103(a) as being unpatentable over Sinnarajah et al in view of what Yano et al. The Examiner has rejected Claims 16 to 22, 24 and 25 under 35 USC §103(a) as being unpatentable over Sinnarajah et al in view of Yano et al as applied to Claim 15, and further in view of Chen et al. The Examiner has rejected Claims 23 and 26 under 35 USC §103(a) as being unpatentable over Sinnarajah et al in view of Yano et al and Chen et al as applied to Claim 22, and further in view of what was well known in the art. The Examiner has rejected Claims 27 and 31 to 34 under 35 USC §103(a) as being unpatentable over Sinnarajah et al in view of McGowan et al. The Examiner has rejected Claims 28 to 30 under 35 USC §103(a) as being unpatentable over Sinnarajah et al in view of McGowan et al as applied to Claim 27, and further in view of Chen et al.

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IV. ALLOWABLE SUBJECT MATTER

The Examiner has objected to Claim 7 as being dependent upon a rejected base claim, but has indicated that Claim 7 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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REMARKS/ARGUMENTS

In the specification, pages 5 to 9 and 11 have been amended to correct minor grammatical, editorial and spelling errors. No new matter has been introduced by these amendments. Accordingly, Applicants respectfully request the Examiner to enter these amendments to the specification. No new matter has been introduced by these amendments.

After entry of the foregoing amendment, Claims 1, 3, 4, 6-14, 23 and 27-35 remain in this application and Claims 2, 5, 15 to 22 and 24 to 26 have been canceled.

The Examiner has objected to Claims 12, 20, 21, 24 and 26 because of various informalities. Applicants have amended to define all of the variables in the equations of Claim 12 and to delete the word "usually" in Claim 12. Applicants have also canceled Claims 20, 21, 24 and 26, rendering the Examiner's objections thereto moot.

The Examiner has also objected to Claim 7 as being dependent upon a rejected base claim, but has indicated that Claim 7 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have amended Claim 7 by putting Claim 7 in independent claim format and adding into Claim 7 all of the limitations of the base claim and all intervening claims. New Claim 35 combines the limitations of Claim 7 into the base claim, Claim 1. Accordingly, Applicants believe new Claim 35 would be allowable for the same reasons that Claim 7 is allowable. For these reasons, Applicants respectfully submit that amended Claim 7 and new Claim 35 are in condition for allowance.

The Examiner has rejected Claims 1 and 2 under 35 USC §102(e) as being anticipated by Chen, et al. Applicants have amended Claim 1 and have canceled Claim 2. Applicants believe that the rejection of Claim 1 has been overcome by the amendment thereof.

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Chen et al. teaches a scheme for, in response to an initiating member subscriber station providing a list of a plurality of member subscriber stations, assigning all of the plurality of member subscriber stations to a broadcast channel for point to multipoint communications. Amended Claim 1 includes the step of receiving requests for broadcast multicast services from a first portion of a plurality of user equipments where the requests include signals indicating a strength of a pilot signal at each of the first portion of the plurality of user equipments. Chen et al. discloses a single user requesting setup of a point to multipoint call. Chen et al. neither teaches or discloses the receiving requests step of the present invention as claimed in Claim 1, as amended.

The present invention as claimed in Claim 1, as amended, also includes the steps of (a) determining a number (K) of particular user equipments of the first portion of the plurality of user equipments to support on a broadcast channel and (b) assigning a second portion of the plurality of user equipments, which are the particular user equipments one through K of the first portion of the plurality of user equipments, to the broadcast channel, wherein the second portion of the plurality of user equipments is smaller than the first portion of the plurality of user equipments. Chen et al. does not teach or disclose a method or scheme for assigning less than all of those requested for multipoint service to a broadcast channel.

Accordingly, Applicants believe that the Examiner's rejection of Claims 1 and 2 under 35 USC §102(e) has been overcome by the amendment of Claim 1, the cancellation of Claim 2 and the remarks herein and that Claim 1, as amended is now in condition for allowance.

The Examiner has rejected Claims 3 to 5 and 14 under 35 USC §103(a) as being unpatentable over Chen et al in view of what was well known in the art. Applicants have

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amended Claims 3, 4 and 14 and have canceled Claim 5. Applicants believe that the amendment of Claims 1, 3, 4 and 14 have overcome the Examiner's rejection thereof.

As described above, Chen et al. does not teach nor disclose assigning less than all of the requesting user equipments to a multipoint broadcast channel. Chen et al. also does not teach or disclose the receiving requests step of amended Claim 1. Neither of the limitations of the present invention were well known in the art at the filing of this case. Thus, the combination of Chen et al in view of what was known in the art neither teaches nor discloses these limitations. All of these limitations are present in Claims 3, 4 and 14 as they all depend from Claim 1.

Accordingly, Applicants respectfully submit that the amendment of Claims 3, 4 and 14 has overcome the Examiner's rejection thereof under 35 USC §103(a) and that these claims are now in condition for allowance.

The Examiner has rejected Claims 6 and 8 under 35 USC §103(a) as being unpatentable over Chen et al in view of what was well known in the art, and further in view of Kitazawa et al. Claims 6 and 8 have been amended. Applicants believe that the amendment of Claims 6 and 8 and the amendments of Claims 1, 3 and 4 from which they depend overcome the Examiner's rejection.

Kitazawa et al. describes a scheme for a base station to assign communication channels to all of the wireless terminals in response to several factors, including communication quality (FIG.4, paragraphs 50-51 and paragraph 18). The communication quality is determined by signal to noise ratio values received from the wireless terminals (paragraph 67).

The combination of Chen et al and Kitazawa et al, while disclosing receiving signal to noise ratio (S/N) values from each of a plurality of user equipments, does not teach nor disclose receiving these S/N values as part of a request for broadcast services. Also, the combination of

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Chen et al and Kitazawa et al neither teaches nor discloses assigning less than all of those requesting broadcast services to a broadcast channel in response to S/N values received.

Accordingly, Applicants respectfully submit that the Examiner's rejection of Claims 6 and 8 under 35 USC §103(a) has been overcome by the amendment of Claims 6 and 8 and the amendments of Claims 1, 3 and 4 from which they depend.

The Examiner has rejected Claims 9 to 13 under 35 USC §103(a) as being unpatentable over Chen et al in view of what was well known in the art and Kitazawa et al as applied to Claim 8, and further in view of Sinnarajah, et al. Applicants have amended Claims 9 to 13. Applicants believe that the rejection of Claims 9 to 13 has been overcome by the amendments thereof and the amendment of Claim 1 from which Claims 9 to 13, as amended, depend.

Sinnarajah et al, as the Examiner point out, teaches a scheme for handling assignment of a mobile station receiving broadcast communications to either a shared broadcast channel or an individual broadcast channel as (a) it travels from one base station coverage area to another base station coverage area (paragraphs 0084-0086) or (b) as the mobile station initiates a point-to-point call while on the shared broadcast channel (paragraph 0116). The first situation is commonly referred to as handoff, and there are a large number of schemes for handoff from one base station to another base station in mobile communication systems. The second situation is call initiation and there are also a number of permutations to call initiation to take into account the present and desired states of the mobile station and base station. The present invention concerns setting up a broadcast call in response to a requests from a number of user equipments desiring reception of that broadcast call.

There is no motivation for combining Sinnarajah et al with Chen et al in view of Kitazawa et al because one skilled in the art would not look to handoff or call initiation schemes to solve

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a problem in Broadcast call setup. Thus, Claims 9 to 13 are not rendered unpatentable by the combination of Chen et al in view of Kitazawa et al in view of Sinnarajah et al as there is no motivation to combine these references.

In addition to a lack of motivation to combine, Claims 9 to 13 are not rendered unpatentable by the combination of Chen et al in view of Kitazawa et al in view of Sinnarajah et al as the combination of the teachings of these three patent publications neither teaches nor discloses receiving S/N values as part of a request for broadcast services. Also, the combination of these three patent publications does not teach or disclose assigning less than all of those requesting broadcast services to a broadcast channel in response to S/N values received. In regards to receiving S/N values as part of a request for broadcast services, for the reasons stated above the combination of Chen et al and Kitazawa et al does not teach receiving S/N values as part of a request for broadcast services. Sinnarajah et al teaches a second base station assigning a single mobile subscriber station to a shared broadcast channel or an individual broadcast channel as the mobile subscriber station is handed off from a first base station to the second base station during a broadcast call or how to reassign the mobile subscriber station when a request for the mobile subscriber station to make a point-to-point call is received by the base station. Thus, the combination of all three references (Chen et al in view of Kitazawa et al in view of Sinnarajah et al) does not teach or disclose receiving S/N values as part of a request for broadcast services.

In addition, the combination of all three references neither discloses nor teaches assigning less than all of those requesting broadcast services to a broadcast channel in response to S/N values received. Sinnarajah et al teaches assigning a single mobile subscriber station to a communication channel when the mobile subscriber station is receiving a broadcast either

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during handoff or call initiation. For the reasons stated above in regards to the combination of Chen et al in view of Kitazawa et al and as Sinnarajah et al does not teach or disclose assigning a plurality of mobile subscriber stations to a broadcast channel (shared or individual), Claims 9 to 13, as amended, depending from Claim 1, as amended, are not rendered unpatentable by the combination of these three references.

Further, Claim 10, as amended, calls for setting a new area coverage threshold in response to the S/N values of the second portion (i.e., less than all of the first portion) of the plurality of user equipments. Amended Claim 11, depending from amended Claim 10, calls for maintaining the power of the new area coverage threshold less than the maximum power of the broadcast channel. Neither Chen et al, Kitazawa et al or Sinnarajah et al or the combination thereof teaches nor discloses setting a new area coverage threshold in response to S/N values or maintaining the power of that new area coverage threshold as claimed in Claims 10 and 11, as amended.

The Examiner at page 8 of the Office Action dated August 22 suggests that "the new base station provid[ing] the broadcast information while the old base station stops transmission (see paragraphs 96-98 [of Sinnarajah et al]), ...reads on the claimed, 'setting a new coverage threshold,' wherein the broadcast being provided in a new area or not being provided in an old area implies the coverage has changed." Applicants respectfully disagree. Setting a new area coverage threshold as claimed in Claim 10, as amended, clearly means defining a new coverage area within the base station's maximum coverage area. The handoff procedure between one base station and another does not redefine the coverage area of broadcast transmission from a base station. Thus, amended Claim 10 and amended Claim 11 depending therefrom are not

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rendered unpatentable under the argument put forth by the Examiner for the reasons stated above.

Claim 12, as amended, calls for determining available power in accordance with a specific equation. This equation for defining available power is neither taught nor disclosed in Chen et al, Kitazawa et al, Sinnarajah et al or the combination thereof.

And Claim 13, as amended, depends from Claim 11, as amended, and calls for the step of transmitting the new area coverage threshold to all of the second portion of the plurality of user equipments. This limitation is neither taught nor disclosed in Chen et al, Kitazawa et al, Sinnarajah et al or the combination thereof. In fact, neither any of the three references nor the combination thereof teaches or discloses transmitting new area coverage threshold information to mobile stations.

Accordingly, for the reasons stated above, Applicants respectfully submit that the rejection of Claims 9 to 13 has been overcome by the amendment of Claims 9 to 13 and the amendment of Claim 1 from which they depend, as well as the remarks hereinabove.

The Examiner has rejected Claims 15 under 35 USC §103(a) as being unpatentable over Sinnarajah et al in view of what Yano et al. The Examiner has rejected Claims 16 to 22, 24 and 25 under 35 USC §103(a) as being unpatentable over Sinnarajah et al in view of Yano et al as applied to Claim 15, and further in view of Chen et al. Applicants have canceled Claims 15 to 22, 24 and 25, thereby rendering Examiner's rejection of these Claims moot.

The Examiner has rejected Claims 23 and 26 under 35 USC §103(a) as being unpatentable over Sinnarajah et al in view of Yano et al and Chen et al as applied to Claim 22, and further in view of what was well known in the art. Applicants have amended Claim 23 and

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have canceled Claim 26. Applicants believe that the amendment of Claim 23 overcomes the Examiner's rejection thereof.

Applicants have amended Claim 23 to be in independent form, adding by amendment all of the limitations of the base claim, Claim 15, and all intervening claims. Claim 23, as amended, calls for, in part, increasing the power of the broadcast channel to encompass a new area coverage threshold and broadcasting the new area coverage threshold to the plurality of user equipments using the broadcast channel. While Sinnarajah et al. discloses assigning a mobile subscriber station to either a shared broadcast channel or an individual broadcast channel during handoff, Sinnarajah et al. does not disclose increasing the power of the broadcast channel to encompass a new area coverage threshold. Nor does Sinnarajah et al. disclose broadcasting the new area coverage threshold to a plurality of mobile stations subscribers. In regards to the rejection of Claim 22, as filed, the Examiner states "Sinnarajah et al disclose that a base station receives a pilot strength report message indicating that the subscriber station is receiving stronger signals from another base station and the new base station provides the broadcast information while the old base station stops transmission (see paragraphs 96-98), which reads on the claimed 'setting a new coverage threshold,' wherein the broadcast being provided in a new area or not being provided in an old area implies the coverage has changed." *Office Action dated 8/22/05, pp. 13-14.* Applicants disagree. The issue of saving power which is prevalent throughout Claim 23, as amended, refers to a single base station's transmission power. Sinnarajah et al refers to one base station stopping transmission and another base station adding transmission. If there is a revised coverage area due to the Sinnarajah-described handoff, that revised coverage area is for multiple base stations, not just one. Thus, Sinnarajah et al does not disclose the step of setting a new area coverage threshold, as claimed in amended

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Claim 23. The combination of Yano et al, Chen et al and what was well known in the art does not rectify this deficiency in the rejection. The combination of the three references and well known information in the art does not render Claim 23, as amended, unpatentable because the combination does not teach setting a new are coverage threshold as called out in amended Claim 23.

In addition, none of Sinnarajah et al, Yano et al, Chen et al, what was well known in the art at the time of filing this application, or the combination thereof teaches or discloses the step of broadcasting the new area coverage threshold for the MBMS broadcast channel to the plurality of user equipments. The Examiner states that "the combination of Sinnarajah et al, Yano et al, and Chen et al discloses that the new base station broadcasts the content and the old base station ceases to send the content (see Sinnarajah et al paragraphs 96-98), which reads on the claimed, assigning the user equipment to the broadcast channel and, 'broadcasting the new coverage threshold to the plurality of user equipments.'" *Office Action dated 8/22/05, page 16.* Applicants disagree with this conclusion of the Examiner. Ceasing broadcasting content or initiating broadcast of content does not broadcast the new area coverage threshold. In addition, the combination of references does not disclose broadcasting the new area coverage threshold to the plurality of user equipments assigned to the broadcast channel.

For the reasons stated above, Applicants respectfully submit that the rejection of Claim 23 under 35 USC §103(a) has been traversed and overcome by the amendment thereof and the remarks above.

The Examiner has rejected Claims 27 and 31 to 34 under 35 USC §103(a) as being unpatentable over Sinnarajah et al in view of McGowan et al. Applicants have amended Claims

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27 and 31 to 34. Applicants believe that the amendment of Claims 27 and 31 to 34 have overcome the rejection thereof.

As to Claim 27, Applicants have amended Claim 27 to claim a method in user equipment. The method of amended Claim 27 calls for the steps of receiving a S/N value of a coverage threshold for the MBMS services and determining whether a measured S/N value is less than the S/N value received. While McGowan et al discloses an initial S/N value being transmitted from the BTS to the mobile station (paragraphs 42-43), the S/N value sent in the McGowan et al disclosure is not an S/N value of a coverage threshold for the MBMS services. McGowan does not teach measuring an S/N value for something less than all that the BTS transmits to (the full coverage area). Sinnarajah et al, McGowan et al and the combination thereof neither teaches or discloses a mobile station receiving a S/N value of a coverage threshold for MBMS services as neither reference teaches or describes defining or determining a coverage threshold for MBMS services.

As to Claims 31 to 34, Claim 31 has been amended to place it in independent format. Amended Claim 31 calls for the step of transmitting a S/N value of a coverage threshold for the MBMS services. Neither Sinnarajah et al, McGowan et al nor the combination thereof teaches or discloses a base station transmitting a S/N value of a coverage threshold for MBMS services as neither reference teaches or describes defining or determining a coverage threshold for MBMS services. Claims 32 to 34, as amended, depend from independent Claim 31, as amended.

Thus, Applicants respectfully submit that the rejection of Claims 27 and 31 to 34 under 35 USC §103(a) has been traversed and overcome by the amendment thereof and the remarks above.

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The Examiner has rejected Claims 28 to 30 under 35 USC §103(a) as being unpatentable over Sinnarajah et al in view of McGowan et al as applied to Claim 27, and further in view of Chen et al. Applicants have amended Claims 28 to 30. Applicants believe that the rejection of Claims 28 to 30 has been overcome by the amendment of Claims 27 to 30.

As Applicant has stated above in regards to the remarks concerning the patentability of amended Claim 27, neither Sinnarajah et al nor McGowan et al, nor the combination thereof teaches or discloses the step of receiving a S/N value of a coverage threshold for the MBMS services. Combining Chen et al with Sinnarajah et al and McGowan et al as applied to Claim 27 does not cure the deficiency in this rejection. Chen et al neither teaches nor discloses determining a coverage threshold or determining a S/N value of the coverage threshold for a point to multipoint channel. Chen et al discloses setting up a point to multipoint communication on a channel in response to a request from a mobile subscriber station. Thus, the combination of Sinnarajah et al, McGowan et al and Chen et al does not disclose nor teach the step of receiving a signal/noise (S/N) value of a coverage threshold for the MBMS services as called for in amended Claim 27 from which Claims 28 to 30, as amended, depend.

Accordingly, Applicants respectfully submit that Claims 28 to 30 as amended are not rendered unpatentable by the combination of Sinnarajah et al in view of McGowan et al as applied to Claim 27, and further in view of Chen et al.

In view of Applicant's amendments and remarks, it is respectfully submitted that all of Examiner's rejections and objections have been overcome and/or traversed. Accordingly, Applicants respectfully submit that the application, as amended, is now in condition for allowance, and such allowance is therefore earnestly requested.

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Should the Examiner have any questions or wish to further discuss this application, Applicants request that the Examiner contact the Applicants attorneys at (480) 395-5060.

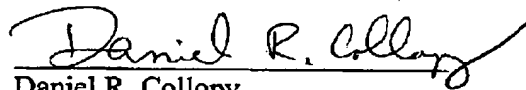
Applicants have previously paid for thirty-four (34) claims, including three (3) independent claims. With entry of the foregoing amendment, the application contains twenty-two (22) claims, including six (6) independent claims. Accordingly, the undersigned Applicants' representative authorizes charging Deposit Account 50-2091 in the amount of \$600 for the three (3) additional independent claims. If for some reason Applicants have not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent abandonment on this application, please consider this as a request for an extension for the required time period and/or authorization to charge Deposit Account No. 50-2091 for any additional fee which may be due.

Respectfully submitted,

INGRASSIA FISHER & LORENZ

Dated: November 22, 2005

By:



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